



**BILLING CODE: 3720-58**

**DEPARTMENT OF DEFENSE**

**Department of the Army, Corps of Engineers**

**The release of the Final Environmental Impact Statement (FEIS) for the Bogue Banks Master Beach Nourishment Plan, on Bogue Banks Barrier Island, Carteret County, NC**

**AGENCY:** Department of the Army, U.S. Army Corps of Engineers, DoD.

**ACTION:** Notice of Availability.

**SUMMARY:** The U.S. Army Corps of Engineers (COE), Wilmington District, Wilmington Regulatory Field Office has received a request for Department of the Army authorization, pursuant to Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, from Carteret County to implement, under an inter-local agreement between the towns on Bogue Banks barrier island, a comprehensive 50-year beach and inlet management plan for the protection of approximately 25 miles of Bogue Banks shoreline. The island's shoreline has been managed in some capacity for over 35 years by Federal projects administered through the COE Civil Works program and by non-federal projects implemented by the County, and/or local municipalities through the COE Regulatory permit program. Since 1978, roughly 11 million cubic yards of sand have been placed upon the beaches of Bogue Banks at a total cost of approximately \$95 million. Past management

efforts have largely consisted of stand-alone projects that were undertaken to address site-specific erosional problems. This stand-alone approach has limited the efficiency and effectiveness of past and current efforts by the County and island municipalities to implement shore protection projects and to maintain the beaches. In order to address ongoing shoreline erosion in a more effective manner, the County and island municipalities (Towns of Atlantic Beach, Pine Knoll Shores, Indian Beach, and Emerald Isle) are proposing to combine their shore protection efforts under a more efficient comprehensive 50-year beach and inlet management plan known as the Bogue Banks Master Beach Nourishment Plan (BBMBNP).

**DATES:** Written comments on the FEIS must be received at (see **ADDRESSES**) no later than 5 p.m. on April 2, 2018.

**ADDRESSES:** Copies of comments and questions regarding the FEIS may be addressed to: U.S. Army Corps of Engineers, Wilmington District, Regulatory Division, ATTN: File Number SAW-2009-00293, 69 Darlington Avenue, Wilmington, NC 28403. Copies of the FEIS can be reviewed on the Corps homepage at, <http://www.saw.usace.army.mil/Missions/RegulatoryPermitProgram/MajorProjects.aspx>, under Bogue Banks 50-Year Project: Corps ID # SAW-2009-00293.

**FOR FURTHER INFORMATION CONTACT:** Questions about the proposed action and FEIS and/or to request a CD or written copies of the FEIS can be directed to Mr. Mickey Sugg, Wilmington Regulatory Field Office, telephone: (910) 251-4811 or [mickey.t.sugg@usace.army.mil](mailto:mickey.t.sugg@usace.army.mil).

## **SUPPLEMENTARY INFORMATION:**

1. *Project Purpose and Need.* The proposed action is to establish and implement a comprehensive, long-term, non-federal beach and inlet management program that would preserve Bogue Banks' tax base, protect its infrastructure, and maintain its tourism-based economy. The COE Civil Work's investigation of a long-term federal Coastal Storm Damaged Reduction (CSDR) project for Bogue Banks has been ongoing for nearly 30 years. As federal funding for shore protection projects has declined, the future of a long-term federal CSDR project has grown increasingly uncertain. The proposed action would address the ongoing trend of declining federal shore protection funding by establishing a non-federal management program under the autonomous control of the County and the island municipalities. An island wide regional strategy was developed to do the following:

- 1) Establish a regional approach by consolidating local community resources, both financially and logistically, to manage Bogue Inlet and the beaches on Bogue Banks in an effective manner,
- 2) Provide long-term shoreline protection stabilization and an equivalent level of protection along Bogue Banks' 25-mile oceanfront/inlet shorelines addressing long-term erosion,
- 3) Provide long-term protection to Bogue Banks' tourism industry,
- 4) Provide short and long-term protection to residential and commercial structures and island infrastructure,
- 5) Provide long-term protection to the local tax base by protection existing and future tax bases and public access/use,
- 6) Maintain and improve natural resources along Bogue Banks' oceanfront and inlet shoreline by using compatible beach material in compliance with the North Carolina State Sediment Criteria for shore protection,
- 7)

Maintain and improve recreational uses of Bogue Banks' oceanfront/inlet shorelines, 8) Maintain navigation conditions within Bogue Inlet, and 9) Balance the needs of the human environment with the protection of existing natural resources.

2. *Proposed Action.* Within the County's preferred alternative, known as Alternative 4 (or the BBMBNP), the County would manage all of the approximately 18 miles of beaches along Pine Knoll Shores, Indian Beach/Salter Path, and Emerald Isle, along with the eastern shoreline of Bogue Inlet. The oceanfront of Atlantic Beach is an on-going recipient of regular USACE placements of navigation dredged material and this is expected to be sufficient in for the needs of its approximate 5.0-mile shoreline. However, the County's 50-year plan would provide for interim maintenance nourishment should the USACE placements cease or if storm-response nourishment for Atlantic Beach is needed.

The 50-year management would employ a regular and recurring cycle of nourishment events, in combination with periodic realignments of the Bogue Inlet ebb tide channel, to continuously maintain beach profile sand volumes at a 25-year Level of Protection (LOP). This LOP equates to protection for upland structures against a 25-year storm event, and nourishment events would be implemented according to 25-year LOP beach profile volumetric triggers. Volumetric triggers were developed by analyzing and adjusting design beach profiles in a series of iterative SBEACH numerical modeling runs. The final modeling results indicated appropriate volumetric triggers ranging from 211 -266 cubic yards/foot along Bogue Banks, averaging 238 cubic yards/foot. Based on variability

in the volumetric triggers, the project shoreline was divided into management reaches ranging in length from 2.4 to 4.5 miles. Reaches include Pine Knoll Shores, Indian Beach/Salter Path, Emerald Isle (EI) East, EI Central, EI West, and Bogue Inlet. Based on the SBEACH modeling results and observed background erosional loss rates, EI Central, EI West, and Bogue Inlet management reaches are expected to require recurring nourishment of approximately 0.06 to 0.23 million cubic yards of material at intervals of six or nine years to offset background erosion. For Pine Knoll Shores, Indian Beach/Salter Path, and EI East, recurring maintenance events would place approximately 0.2 to 0.5 million cubic yards of material at intervals of three or six years to offset background erosion. Actual maintenance nourishment intervals would be expected to vary in response to background erosion rate variability over the course of the 50-year project.

For Bogue Inlet management, the proposal has designated a “safe box” within the inlet throat where the ebb channel would be allowed to migrate freely so long as it remains within the boundaries of the safe box. If the channel migrates beyond the eastern boundary of the safe box (or toward Emerald Isle), this would trigger a preemptive event to realign the ebb channel mid-center within the established boundary. The limits of the safe box were developed and evaluated through empirical analysis of historical inlet changes and supplemental numerical modeling. Historical ebb channel alignments and corresponding inlet shoreline positions were analyzed through GIS analysis of historical aerial photography, National Ocean Service (NOS) T-sheet maps, and LIDAR topographic maps. Past migration rates and corresponding shoreline changes indicate that once eastward

migration accelerates toward Emerald Isle, the migrating channel has the potential to threaten structures along the shoreline within two to three years. Based on the historical patterns, a safe box was established with boundaries corresponding to the location where acceleration of the ebb channel towards the west end of Emerald Isle has occurred in the past. The validity of the boundaries were then evaluated by modeling a series of six idealized inlet configurations encompassing the range of most relevant historical ebb channel alignments. Modeling results did not show any additional geomorphological indicators of an impending shift to accelerated migration that warranted modifications to the initial safe box. Once the boundary threshold is triggered, the relocation event would entail the construction of a channel approximately 6,000-feet long with variable bottom widths ranging from 150 to 500 feet. The dimensions of the channel would be similar to the footprint of the ebb tide channel realignment construction completed in 2005. Maintenance events of Bogue Inlet are expected approximately every ten to fifteen years, with corresponding placement of dredged material on the beaches of Emerald Isle.

Beach fill for all the proposed nourishment activities on Bogue Banks would be acquired from a combination of sources including offshore borrow sites, Atlantic Intracoastal Waterway disposal areas, upland sand mines, and the management of the Bogue Inlet. The offshore borrow sites consist of the Old Offshore Dredge Material Disposal Site (ODMDS) and the current ODMDS, which are located approximately 3 nautical miles offshore from Beaufort Inlet, and Area Y, which is located over 1.0 mile offshore from EI West reach. It is expected that hopper dredge plants will be used to

extract beach fill material from the offshore borrow sites. Material would be transported from the hopper dredges to offshore booster pumps and carried to the appropriate nourishment reaches via pipeline. A hydraulic cutterhead dredge will likely be used during the management of the inlet bar channel event, which would transport the dredge material directly from the dredge plant onto the beach via pipelines.

3. *Alternatives.* Several alternatives have been identified and evaluated through the scoping process, and further detailed description of all alternatives is disclosed in Section 3.0 of the FEIS.

4. *Scoping Process.* To date, a public scoping meeting was held on September 30, 2010 in Morehead City; several Project Delivery Team (PDT) meetings have been held, which were comprised of local, state, and federal government officials, local residents and nonprofit organizations; and the Draft EIS was released and published in the Federal Register on April 14, 2017 (82 FR 17984).

The COE has coordinated closely with Bureau of Ocean Energy and Management (BOEM), which is a cooperating agency, in the development of the FEIS to ensure the process complies with the requirements of the Outer Continental Shelf Lands Act (OCSLA) and with the National Environmental Policy Act (NEPA). Additionally, the COE has consulted with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service Protected Resources Division under the Endangered Species Act; with U.S. Fish and Wildlife and National Marine Fisheries Service Habitat Conservation Division under the Fish and Wildlife Coordination Act; and with the National Marine Fisheries Service

Habitat Conservation Division under the Magnuson-Stevens Act. The FEIS assesses the potential water quality impacts pursuant to Section 401 of the Clean Water Act, and is coordinated with the North Carolina Division of Coastal Management (DCM) to ensure consistency with the Coastal Zone Management Act.

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Army Federal Register Liaison Officer.  
[FR Doc. 2018-04408 Filed: 3/2/2018 8:45 am; Publication Date: 3/5/2018]